

REMARKS

Claims 3 and 5-11, as amended, remain herein.

Applicants thank the Examiner for his illustrative attachments to the Office Action and generally responding to applicants' representative's inquiries, summarized herein. In an effort to meet the Examiner's requirement (stated in the Office Action mailed December 3, 2002, paragraph nine) of showing claimed elements referring to applicants' invention after the piston moves in response to gas pressure (claim 7), applicants originally provided Fig. 9. Fig. 2 shows a view before activation of the charge and Fig. 9 shows a view after activation of the charge.

Applicants appreciate the statements in the Office Action that claims 3 and 5-11 would be allowable if rewritten or amended to overcome the rejection under 35 U.S.C. §112, second paragraph. Claims 3 and 5-11 are so amended to place them in condition for immediate allowance. Claims 1, 2 and 29 have been cancelled without prejudice or disclaimer.

1. The Abstract has been amended.

2. Fig. 9 was objected to for allegedly introducing new matter. Applicants next discuss each element of the Examiner's objections and provide reasons why Fig. 9 is proper and need not be further edited.

Referring to page 2, paragraph 4(b)(1) of the Office Action, applicants respectfully disagree with the statement in the Office Action that groove 19a is curved. Actually, groove 19a is only partially revealed because the bottom portion of groove 19a is hidden by the body portion of tip 15, which is shown as having traveled to the right in the Figure (after the explosive charge has activated) and relaxed toward axis 9. The top profile of groove 19a is straight, exactly as shown in originally filed Fig. 2. The curved portion shown in Fig. 9 is not the lower profile of groove 19a, but instead, is the upper profile of the body of tip 15, which is shown as partially covering groove 19a. Thus, Fig. 2 shows them as engaged, and Fig. 9 shows them as disengaged, and in both views, the upper profile is straight and properly illustrated. Accordingly, a change to the shape of groove 19a in Fig. 9 would not properly

Serial No.: 09/868,182

describe the presently claimed invention.

On page 3, paragraph (b) of the Office Action, the Examiner admits that applicants' disclosure describes tips 15 as being "deformable or flexible." But, with respect, the Examiner is incorrect in saying "the original disclosure does not specifically disclose that the tips 15 are bent inward radially and uniformly as now shown." Applicants draw attention to the specification, page 4, lines 28-31, as originally filed, which states:

thereby allowing the tips to bend in the direction of the piston, such bending allowing the external profile of the tips to be disengaged from its matching profile.
(underlining added)

Thus, claim 3, reciting:

thereby allowing the tips to bend toward the piston, such bending allowing the external profile of the tips to disengage from said matching profile of said matching second surface after the piston moves in response to gas pressure.

does not represent new matter because such recitation is substantially identical to the original description in the specification. Additionally, claim 7, as originally filed,

Serial No.: 09/868,182

recites this same subject matter. Accordingly, claim 7 as presently presented, does not recite new matter.

Additionally, applicants' respectfully submit that Fig. 9 shows one possible example of such "deformable or flexible" tips 15. Accordingly, (1) the original disclosure describes such deformable or flexible tips 15 bending inward, and (2) Fig. 9 is one example of such deformable or flexible tips bending inward. Therefore, Fig. 9 is not new matter, because the drawing merely illustrates one possible example of tips 15 bending inward as described in the specification. Thus, applicants have complied with the Examiner's request that a figure be included that shows the invention recited in claim 7, i.e., after activation of the charge, by illustrating one possible example of tips 15 after movement of piston 21 attached to tips 15 along axis 9, toward the right side of Figs. 2 and 9.

Page 4, paragraph (c) of the Office Action contains a statement that applicants have shown chamber 27 as having a different size and shape as compared with originally filed Fig. 2. Fig. 9 shows the invention with the first and second mechanical elements separated along axis 9 wherein chamber 27

Serial No.: 09/868,182

inherently is larger because of movement along axis 9 of piston 21 and attached tips 15. This is a natural result of operation of the invention as disclosed in the specification, i.e., the elements moving along axis 9 after activation of the charge. Expansion in the size of chamber 27 is a natural and direct result of movement of elements originally shown in Fig. 2 before activation of the charge, into a new separated arrangement after activation of the charge, shown in Fig. 9. No new matter is shown in Fig. 9 because the chamber becomes larger as a result of operation of the invention. Applicants respectfully submit that the shape of tips 15, admitted by the Examiner as being "deformable or flexible", and disclosed in the specification as bending inward toward axis 9 after the charge is activated, are part of the boundaries of chamber 27, having a first size/shape shown in the view of Fig. 2 before activation of the charge, and a second size/shape in the view shown in Fig. 9 after activation of the charge. Therefore, Fig. 9 is fully supported in the original disclosure and does not include new matter.

Page 4, paragraph 5 of the Office Action contains a request that the figures show "the locking means releasably engaged with

Serial No.: 09/868,182

the first external surface of the piston" recited in claims 1 and 3. As stated above, Fig. 9 shows applicants' invention after activation of the charge, which caused piston 21 interlocked with tips 15, to move as an assembly along axis 9 toward the right side of the Figures, to the position shown in Fig. 9. In that expanded arrangement, the locking means (tips 15) are shown as released from element 11, i.e., they are shown in a new position further along axis 9, after having been disengaged from element 11. Thus, Fig. 2 shows the locking means engaged with the first external surface of the piston, and Fig. 9 shows the locking means disengaged with the first external surface of the piston. Thus, Figs. 2 and 9 as previously submitted, meet the Examiner request (a) stated in paragraph 5.

In paragraph 5(b) of the Office Action, the Examiner also requests that external profile 18, which is disengaged from matching profile 19, as recited in claim 7, be shown in the figures. The Examiner correctly describes Fig. 2 as showing external profiles 18 and 19 forming a straight line. However, the Examiner goes on to describe them as "thus, they are engaged

Serial No.: 09/868,182

from each other." This is not correct. Fig. 2 shows the invention prior to activation of the charge, and therefore all components are completely engaged with each other. In Fig. 2, profiles 18 and 19 are mated together. Fig. 9, showing the invention after activation of the charge, shows profiles 18 and 19 separated from each other because of movement of piston 21 and tips 15 to the right, along axis 9. Note that Fig. 9 shows the upper straight profile of tip 15 as having moved toward the right, leaving exposed, the upper straight profile of groove 19a. Thus, Fig. 2 shows them as engaged, and Fig. 9 shows them as disengaged. Thus, Fig. 9 as previously submitted, meets the Examiner request (b) stated in paragraph 5.

Referring to page 4, paragraph 6 of the Office Action, it is stated that the description added to the disclosure describing Fig. 9 as being new matter. As discussed above, Fig. 9 is not new matter, and therefore, the corresponding description of Fig. 9 is not new matter.

Approval of the drawings and amendments to the specification describing the drawings are respectfully requested.

Serial No.: 09/868,182

3. Claims 1-3, 5-11 and 29 were rejected under 35 U.S.C. §112, second paragraph. Claims 1, 2 and 29 have been cancelled, thereby mooting their rejection.

The preamble of claim 3 has been amended to clarify the difference between "first and second mechanical elements" by reciting "first and second mechanical elements for separation from each other by tensile and/or compressive forces." See applicants' specification at page 8, lines 18-19.

Claim 3 also has been amended to replace the phrase "the locking means being in releasable locking engagement with" with "the locking means releasably engaged with."

4. The obviousness-type double patenting rejection of claim 1 is moot as the claim has been cancelled.

5. Claims 1, 2 and 29 are rejected under 35 U.S.C. §102(a) over Camp German Patent DE 196 16 372. Claims 1, 2 and 29 have been cancelled, thereby mooting their rejection.

Serial No.: 09/868,182


All claims 3 and 5-11 are now proper in form and patentably distinguished over all grounds of rejection stated in the Office Action. Accordingly, allowance of all claims 3 and 5-11 is respectfully requested.

Should the Examiner deem that any further action by the applicants would be desirable to place this application in even better condition for issue, the Examiner is requested to telephone applicants' undersigned representatives.

Respectfully submitted,

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